

REMARKS

Claims 1-18 are pending and are rejected. Claims 11-13 are herein amended to correct formalities. Claim 1 is amended, and claims 2-9 are canceled without prejudice or disclaimer. The specification is amended at pages 1 and 4 to indicate the appropriate application numbers. In view of the above amendments and following remarks, favorable reconsideration of the application is respectfully requested.

Applicants thank Examiner Shosho for acknowledgement and consideration of Applicants' Information Disclosure Statement and Form PTO-1449 filed October 16, 2001.

Rejection of Claims 11-13 Under 37 CFR 1.75(c):

Claims 11-13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot refer to two sets of claims to different features. Claims 11-13 are each herein amended to incorporate the subject matter of one of the referenced claims, as recommended by Examiner Shosho. Reconsideration and withdrawal of the objection are respectfully requested.

Rejection of Claims 6 and 9 under 35 USC § 112, second paragraph:

Claims 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as allegedly indefinite for failing to adequately define R². Claims 6 and 9 are herein canceled, rendering the rejection moot.

Rejections Under 35 U.S.C. §103(a) Over Lent et al. (U.S. 5,929,134) In View of Wang et al. (U.S. 6,252,025):

A. Claims 1-4, 7, 10-12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lent et al. (U.S. 5,929,134) in view of Wang et al. (U.S. 6,252,025). The Office Action states Lent et al. discloses an ink jet ink comprising water, humectant, and 2-5% dye covalently bonded to a resin. It is admitted in the Office Action that Lent et al. does not disclose or suggest use of a hyperbranched polymeric dye. The Office Action applies Wang et al. for its disclosure of a hyperbranched polymer having a dye chromophore pendant on the polymer chain. Applicants traverse the rejection for the following reasons.

As admitted in the Office Action, Lent et al. does not disclose or suggest use of a hyperbranched polymeric dye, and Wang et al. discloses a hyperbranched polymer having a dye chromophore pendant on the polymer chain. The claims as amended herein are directed to an ink jet ink composition comprising a hyperbranched polymer having a dye chromophore incorporated into the polymer backbone. Such a hyperbranched polymer is not disclosed or suggested by either Lent et al. or Wang et al. For at least the above reasons, reconsideration and withdrawal of the rejection are respectfully solicited.

B. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lent et al. in view of Wang et al. as applied to claims 1-4, 7, 10-12, and 18 above, and further in view of Evans et al. (U.S. 6,468,338). As discussed above, neither Lent et al. nor Wang et al. disclose or suggest an ink jet ink composition comprising a hyperbranched polymer having a dye chromophore incorporated into the polymer backbone. Evans et al. does not cure the deficiencies of Lent et al. and Wang et al. For at least the above reasons, reconsideration and withdrawal of the rejection are respectfully solicited.

C. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lent et al. in view of Wang et al. as applied to claims 1-4, 7, 10-12, and 18 above, and further in view of either Chen et al. (U.S. 6,431,700) or Evans et al. (U.S. 6,001,161). As discussed above, neither Lent et al. nor Wang et al. disclose or suggest an ink jet ink composition comprising a hyperbranched polymer having a dye chromophore incorporated into the polymer backbone. Neither Chen et al. nor Evans et al. cure the deficiencies of Lent et al. or Wang et al. For at least the above reasons, reconsideration and withdrawal of the rejection are respectfully solicited.

D. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lent et al. in view of Wang et al. as applied to claims 1-4, 7, 10-12, and 18 above, and further in view of Mead et al. (U.S. 5,596,027). As discussed above, neither Lent et al. nor Wang et al. disclose or suggest an ink jet ink composition comprising a hyperbranched polymer having a dye chromophore incorporated into the polymer backbone. Mead et al. does not cure the deficiencies of Lent et

al. or Wang et al. For at least the above reasons, reconsideration and withdrawal of the rejection are respectfully solicited.

Rejections Under 35 U.S.C. §103(a) Over Sacripante et al. (U.S. 6,025,412) in view of Figuly (U.S. 5,136,014):

A. Claims 1-3, 5, 8, 10, 12, 14, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sacripante et al. (U.S. 6,025,412) in view of Figuly (U.S. 5,136,014). According to the Office Action, Sacripante et al. discloses an ink jet ink comprising water, a humectant, and a polyester having a dye attached within the base chain or to the base chain as a side chain component. As admitted in the Office Action, Sacripante et al. does not disclose or suggest a hyperbranched polymeric dye. Figuly is cited for disclosure of a hyperbranched polyester. For at least the following reasons, Applicants traverse the rejection.

Neither Sacripante et al. nor Figuly disclose or suggest the subject matter of the claimed invention. Sacripante et al. is directed to an ink jet ink including particles of a dye-polymer resin dispersed in a liquid vehicle. The dye-polymer resin particles include a dye chemically attached to a polymer resin. The dye-polymer resin particles have a number average particle size of from about 2 nm to about 500 nm. Figuly is directed to hyperbranched functional polyesters that can be used as rheology modifiers.

One of ordinary skill in the art would not look to Sacripante et al. to form the claimed invention because Sacripante et al. is directed to formation of particles of the dye-polymer resin. Combining Figuly with Sacripante et al. would result in the formation of particles of the dye-polymer resin, wherein the resin is a hyperbranched polymer. The claimed invention does not include particles. Thus, Sacripante et al. in view of Figuly does not disclose or suggest the subject matter of the claimed invention.

Further, the combination of Sacripante et al. with Figuly, producing particles of dye-polymer resin, would not be desirable in the claimed invention because particles do not allow reliable firing of the ink jet ink composition. Particles can cause clogging and uneven dispersion of the ink jet ink composition. Thus, combining the teachings of Sacripante et al. with Figuly would result in an ink jet ink not having the improved firability of the claimed invention.

For at least the above reasons, reconsideration and withdrawal of the rejection is respectfully requested.

B. Claims 6, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sacripante et al. in view of Figuly as applied to claims 1-3, 5, 8, 10, 12, 14, and 17-18 above, and further in view of Polymer Science Dictionary. As discussed above, the combination of Sacripante et al. in view of Figuly would result in particles of dye-polymer resin, which do not result in the improved firability of the claimed invention. The disclosure of the Polymer Science Dictionary does not overcome the deficiencies of Sacripante et al. or Figuly. For at least the above reasons, reconsideration and withdrawal of the rejection is respectfully requested.

C. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sacripante et al. in view of Figuly as applied to claims 1-3, 5, 8, 10, 12, 14, and 17-18 above, and further in view of Evans et al. (U.S. 6,468,338). As discussed above, the combination of Sacripante et al. in view of Figuly would result in particles of dye-polymer resin, which do not result in the improved firability of the claimed invention. The disclosure of Evans et al. does not overcome the deficiencies of Sacripante et al. or Figuly. For at least the above reasons, reconsideration and withdrawal of the rejection is respectfully requested.

D. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sacripante et al. in view of Figuly as applied to claims 1-3, 5, 8, 10, 12, 14, and 17-18 above, and further in view of either Chen et al. (U.S. 6,431,700) or Evans et al. (U.S. 6,001,161). As discussed above, the combination of Sacripante et al. in view of Figuly would result in particles of dye-polymer resin, which do not result in the improved firability of the claimed invention. Neither the disclosure of Chen et al. nor Evans et al. overcomes the deficiencies of Sacripante et al. or Figuly. For at least the above reasons, reconsideration and withdrawal of the rejection is respectfully requested.

Applicants submit that all of claims 1 and 10-18 are in condition for allowance for at least the reasons set forth herein. Prompt and favorable action is earnestly solicited.

Should the Examiner require anything further, or have any questions, she is invited to contact Applicants' undersigned representative.

Respectfully submitted,



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